

## CLAIMS

1. Cell culture apparatus comprising
  - a flexible culture chamber, and
  - 5       - a wave induction mechanism,wherein the wave induction mechanism lifts up between 5 and 50% of the length of the culture chamber.
- 10   2. Cell culture apparatus according to claim 1, wherein the wave induction system moves from 8 to 20% of the surface area of the lower part of the culture chamber.
- 15   3. Cell culture apparatus according to claim 1 or claim 2, wherein the wave induction mechanism moves part of the lower part of the culture chamber to an angle of 1 to 90°, preferably 1 to 25°.
- 20   4. Cell culture apparatus according to any preceding claim wherein the culture chamber comprises means to circulate the air such as tube or air permeable membrane.
- 25   5. Cell culture apparatus according to any preceding claim wherein the wave induction mechanism lifts up alternatively between 5 and 50% of the length of the culture chamber.
- 30   6. Cell culture apparatus according to any preceding claim wherein the culture chamber is a flexible plastic bag.
7. Cell culture apparatus according to any preceding claim wherein the culture chamber filling rate is from 10 to 80%, preferably 20-40%.
8. Use of a cell culture apparatus according to any preceding claims to cultivate plant cells, animal cells, or microorganisms.

9. Use of a cell culture apparatus according to any preceding claim wherein cells are producing biomass cells, embryogenic plant cells, metabolites, secondary plant metabolites and / or recombinant molecules